NEUROPACE

LTT & RWO

RNS® System 9 Year Long-Term Treatment Study and Real World Outcomes Study

1. NAIR DR, ET AL. NEUROLOGY. 2020 2. RAZAVI , ET AL. EPILEPSIA. 2020 3. HECK ET AL. EPILEPSIA, 2014

SUMMARY

Two large multi-center studies demonstrate safety and effectiveness of the RNS System

- The **Long-Term Treatment (LTT)**[1] study (n=230) prospectively evaluated patients for 9 years
- The **Real World Outcomes (RWO)**[2] study (n=150) retrospectively evaluated patients for an average of 2.3 years

KEY RESULTS

Real World Outcomes Show Accelerated Seizure Reduction[1,2]

- 67% Median seizure frequency reduction at 1 year (vs. 6 years in LTT)
- 75% Median seizure frequency reduction at 2 years (vs. 9 years in LTT)
- 82% Median seizure frequency reduction at ≥3 years

More than 1 in 3 Patients Achieved ≥90% Seizure Reduction[1,2]

Super-responders (≥90% seizure frequency reduction)

- 35% (RWO, at last follow up, mean 2.3 years)
- 35% (LTT, at 9 years)

Responders (≥50% seizure frequency reduction)

- 77% (RWO, at 2 years)
- 73% (LTT, at 9 years)

Meaningful Periods of Seizure Freedom (LTT)[1]

- 28% had at least one period ≥6 months of seizure freedom
- 18% had at least one period ≥12 months of seizure freedom

Enduring Quality of Life Improvements (LTT)[1]

Statistically significant improvements maintained through 9 years:

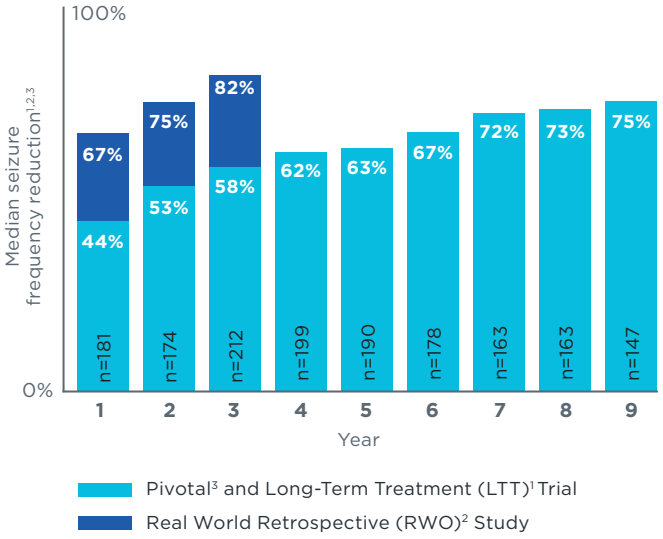
- Overall quality of life ($p<0.05$)
- Cognitive function ($p=0.005$)
- Epilepsy-specific domain ($p<0.001$)

Established Long-term Safety (LTT)[1]

- No chronic stimulation side effects
- Risk of infection per neurostimulator procedure was 4.1%
- Rate of non-seizure related hemorrhage was 2.7%

Lower Rate of SUDEP (LTT)[1]

- The SUDEP rate for patients treated with the RNS System was 2.8 per 1,000 patient-stimulation years (95% CI: 1.2-6.7)
- This rate is significantly lower than predefined comparators ($p<0.05$; one-tailed Chi Square)



RESPONDERS[1]

A 50% or more reduction in frequency from baseline.

73%

SUPER RESPONDERS[1]

A 90% or more reduction in frequency from baseline.

35%

PATIENT CHARACTERISTICS

Seizure frequency reduction at 1 year (RWO)[2] and 9 years (LTT)[1] was not statistically different across patient variables such as:

- Seizure onset location
- Prior vagus nerve stimulation, prior epilepsy surgery, or prior intracranial monitoring

	LTT Study	Real World Study
Demographics		
Mean age at time of implant	34 Years	39 Years
Mean duration of epilepsy	20 Years	20 Years
Pre-implant baseline: disabling seizures per month	Median of 10.2 (mean: 51)	Median of 7.7 (mean: 52)
Prior Procedures		
Prior intracranial monitoring	65%	82%
Prior VNS	32%	32%
Prior epilepsy surgery	34%	33%
MTL Onsets / Neocortical & Other	43% / 57%	44% / 56%

PROGRAMMING DIFFERENCES

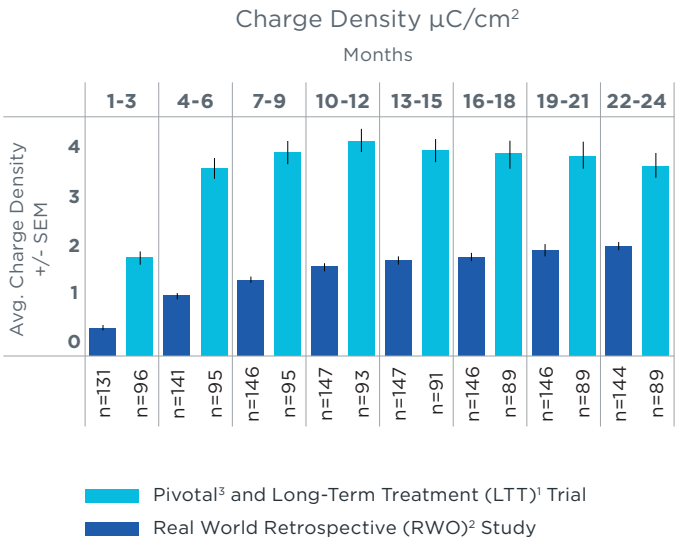
Accelerated outcomes observed in the real world might be due to differences in programming strategies used during early clinical experience compared to later real world experience. Notable differences include:

- Stimulation charge density was lower
- Stimulation adjustments were made at a slower pace
- Detection was programmed to recognize peri-ictal patterns

Programming suggestions based on >15 years of clinical experience have been outlined in the **RNS System Suggested Therapy Protocol**.

LTT

RWO



Rx Only

The RNS System is an adjunctive therapy for adults with refractory, partial onset seizures with no more than 2 epileptogenic foci. See important prescribing and safety information in the RNS® System labeling. This is intended as supplementary information and should be used in conjunction with the labeling. Refer to the labeling for a description of the RNS® System and its components, indications for use, contraindications, warnings, cautions, adverse events and instructions for use. The manuals are available at www.NeuroPace.com

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